REMARKS

The Office Action mailed August 20, 2008 has been received and carefully noted. Claims 1-27 are currently pending in the subject application and are presently under consideration.

Claim 18 has been amended herein. A listing of claims can be found on pages 2-7 of this Response.

Favorable reconsideration of the pending claims is respectfully requested in view of the amendments and the following comments.

I.   Rejection of Claims 1-3 Under 35 U.S.C. §103(a)

Claims 1-3 are rejected under 35 U.S.C. §103(a), as being unpatentable over Andrews *et al.* (U.S. 2005/0122339) ("Andrews"). This rejection should be withdrawn for at least the following reason. Andrews does not teach or suggest all the limitations of the claims. In particular, independent claim 1 recites: "a render-cache controller to maintain the order in which each thread is dispatched to the graphics engine in line with the multithreading, multi-core graphics engine processing the pixel data corresponding to each thread."

The Examiner concedes that this aspect is not expressly disclosed by Andrews, but contends that this aspect is obvious in view of paragraph 0054 of Andrews. The Examiner states that Andrews "disclose[s] the threads comprises [*sic*] series of subtasks performed in a specific order forming a sequence of such subtasks and the tasks must be executed in the order for rendering scenes [0054]. Also, Andrews et al. do [*sic*] not teach the threads being dispatched out of order" (*See* Office Action mailed August 20, 2008, pgs. 2-3).

Paragraph 0054 of Andrews does not teach or suggest a render-cache controller having the characteristics recited in independent claim 1. The cited paragraph describes the execution of a thread, which is a task "comprising a series of subtasks." If a delay is encountered when executing a subtask of one thread, then execution of another thread may commence so that execution resources do not remain idle. Andrews does not set forth an *order in which each thread is dispatched to the graphics engine in line with the multithreading, multi-core graphics engine processing the pixel data corresponding to each thread* because Andrews does not indicate that the "first thread" and "second thread" have those labels consistent with an order that the graphics engine processes pixel data corresponding to each thread. Rather, Andrews attaches the "first" and "second" labels simply to distinguish that there is more than a single thread, but

not to indicate a planned order of execution consistent with the processed pixel data. The cited passage is silent regarding the specific ordering of threads as recited in the claim.

With respect to the Examiner's contention that Andrews does not dispatch the threads out of order (*See* Office Action mailed August 20, 2008, pg. 3), it is noted that the cited paragraph does not indicate as such. Rather, cited paragraph 0054 states that the "subtasks [of a thread are] performed in a specific order." Executing subtasks within a thread in a specific order only involves a single thread and therefore does not teach or suggest maintaining a specific order of multiple threads as recited in claim 1.

In view of the above, it is readily apparent that Andrews does not teach or suggest all the limitations of independent claim 1 (and claims 2-3 which depend therefrom). Withdrawal of this rejection is respectfully requested.

II. Rejection of Claims 4 and 6-10 Under 35 U.S.C. §103(a)

Claims 4 and 6-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Andrews, Hussain (U.S. 2004/0233208), and Chrysos *et al.* (U.S. 6,549,930) ("Chrysos"). These claims depend from independent claim 1 and thus incorporate the limitations thereof. The Examiner does not indicate any part of the additional cited references that cures the aforementioned deficiencies of Andrews regarding the independent claim. Thus, the cited references fail to teach or suggest all the limitations of these dependent claims and withdrawal of this rejection is respectfully requested.

III. Rejection of Claim 5 Under 35 U.S.C. §103(a)

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Andrews, in view of Chrysos. Claim 5 depends from independent claim 1 and includes certain limitations thereof as discussed above. The Examiner does not indicate any part of the additional cited reference that cures the aforementioned deficiencies of Andrews regarding the independent claim. Thus, the cited references fail to teach or suggest all the limitations of this dependent claim and withdrawal of this rejection is respectfully requested.

IV.   Rejection of Claims 11-13, 15-20, and 22 Under 35 U.S.C. §103(a)

Claims 11-13, 15-20, and 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hussain, in view of Chrysos. It is respectfully requested that these rejections be withdrawn for at least the following reason. Hussain and Chrysos, alone or in combination, do not teach or suggest all the limitations of these claims.

In particular, independent claim 11 recites "a pixel mask array having a mask bit for every entry of the content addressable memory, each mask bit to indicate whether previously allocated pixel data is in flight." Amended independent claim 18 recites similar aspects. The Examiner concedes that Hussain does not disclose this aspect, but contends that Chrysos discloses this aspect at col. 14, line 54 – col. 15, line 3 (*See* Office Action mailed August 20, 2008, pg. 10).

The cited passage of Chrysos discloses an instruction of a processor that includes a "sample bit" that indicates that the instruction is in flight, but does not disclose a pixel mask array having the characteristics of the recited claims. The "sample bit" of Chrysos indicates in flight status, which begins at the time the instruction is fetched until the instruction retires or is aborted. However, this "sample bit" is not in a pixel mask array, but rather is in an instruction of a processor. For at least these reasons, Chrysos does not teach or suggest "a pixel mask array having a mask bit for every entry of the content addressable memory, each mask bit to indicate whether previously allocated pixel data is in flight." Withdrawal of this rejection is respectfully requested.

V.   Rejection of Claim 14 Under 35 U.S.C. §103(a)

Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hussain in view of Chrysos and Baylor *et al.* (U.S. 2002/007812) ("Baylor"). This claim depends from independent claim 11. For at least the above reasons regarding independent claim 11, the cited references do not teach or suggest all the limitations of this dependent claim. Accordingly, it is respectfully requested that this rejection be withdrawn.

VI.   Rejection of Claim 21 Under U.S.C. §103(a)

Claim 21 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hussain, in view of Chrysos and Andrews. This claim depends from independent claim 18. For at least the above reasons regarding independent claim 18, the cited references do not teach or suggest all the

limitations of this dependent claim. Accordingly, it is respectfully requested that this rejection be withdrawn.

VII.   Rejection of Claims 23-27 Under U.S.C. §103(a)

Claims 23-27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Andrews, Chrysos, and Hussain. Independent claim 23 recites a limitation found in independent claim 1, namely, "a render-cache controller to maintain the order in which each thread is dispatched to the graphics engine in line with the multithreading, multi-core graphics engine processing the pixel data corresponding to each thread." The above argument in the section addressing independent claim 1 also applies to independent claim 23 (and claims 24-27 which depend therefrom). Accordingly, it is respectfully requested that this rejection be withdrawn.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.
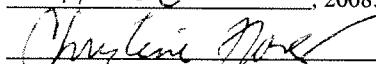
Respectfully submitted,

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Dated: __19 Nov_____, 2008   /Farzad Amini/
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